

ABSTRACT

A sensor having a tubular optical cell or similar structure with a membrane wall. The wall may be permeable so that analyte can enter into the tube containing a reagent. Conversely, the wall structure could instead operate to let reagent enter into the tube containing the analyte. Attached to one end of the tube may be a reagent reservoir. A valve may be attached to the other end of the tube and to a reagent disposal container. The flow or replacement of the reagent in the tube may be caused by gravity, a pump, elastic reservoir design or pressurized gas. One or more light sources may be positioned at one end of the tube with a light detector at the other end. Processing and display electronics may be connected to the valve, light sources and detector.